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#### SMITHSONIAN INSTITUTION

MUSEUM PROGRAMS AND RELATED RESEARCH (SPECIAL FOREIGN CURRENCY PROGRAM)

PROGRAM PURPOSES AND LIST OF GRANTS

Submitted as a supplement to the FY 1978 budget

February 1977



## SMITHSONIAN INSTITUTION MUSEUM PROGRAMS AND RELATED RESEARCH (SPECIAL FOREIGN CURRENCY PROGRAM)

#### PROGRAM PURPOSES AND LIST OF GRANTS

#### CONTENTS

oage	1	Introduction
	1	The Global Nature of the Smithsonian's Charter
	2	The Importance of Research in the Natural Sciences and Cultural History
	2	The Smithsonian Foreign Currency Program
	2	Strengthening United States Institutions
	3	Contributing to Solving Today's Problems
	4	The FY 1978 Appropriation Request
	5	The Importance of Multi-year Grants
	5	Expanding Cultural Programs
	5	Scientific Review under the Smithsonian Program
	6	The Final U.S. Contribution to the Salvage of the Temples of Philae
	7	Special Foreign Currency Program Appropriations and the U.S. Taxpayer
		Charts:
	8	Summary of Obligations, Actual and Estimated FY 1976, Transition Quarter (TQ), FY 1977, and FY 1978 - By Program Area and by Country
	9	Actual Obligations FY 1976 - By Program Area and by Country
	10	Actual Obligations Transition Quarter (TQ) - By Program Area and by Country
	11	Estimated Obligations FY 1977 - By Program Area and by Country
	12	Estimated Obligations FY 1978 - By Program Area and by Country
	13	Status of Smithsonian Funds FY 1976, Transition Quarter (TQ),



page	14	List of Grants:
	14	Archaeology and Related Disciplines
	21	Systematic and Environmental Biology
	24	Astrophysics and Earth Sciences
	26	Museum Programs
	28	Grants Program Administration



#### PROGRAM PURPOSES AND LIST OF GRANTS

#### INTRODUCTION

The Smithsonian Institution's Special Foreign Currency Program makes grants in United States-owned foreign currencies to United States institutions, including the Smithsonian itself, to conduct research projects in the so-called "excess" foreign currency countries. In FY 1976 the "excess" foreign currency countries were Burma, Egypt, Guinea, India, Pakistan, Poland, and Tunisia. The Smithsonian program supports research in Archaeology and Related Disciplines, Systematic and Environmental Biology, Astrophysics and Earth Sciences, and Museum Programs.

The Smithsonian Foreign Currency Program awards grants when applicants have fulfilled three requirements. These are: 1) the favorable recommendation by a national advisory council of qualified scholars; 2) the concurrence of the appropriate American embassy and host government overseas; and 3) the completion of appropriate cooperative arrangements with host country institutions.

This supplement to the Institution's FY 1978 appropriation request describes:
1) the Smithsonian Foreign Currency Program within the context of the basic
Smithsonian purpose; 2) some of the Program's achievements; and 3) its goals
for FY 1978. It also lists grants made in FY 1976 and the Transition Quarter.

#### THE GLOBAL NATURE OF THE SMITHSONIAN'S CHARTER

The purpose of the Smithsonian Institution is "the increase and diffusion of knowledge among men." This quotation from the will of its founder James Smithson, was made a part of the Institution's enabling legislation enacted by the Congress in 1846, chartering the Institution and leading to the eventual designation of the Institution as the custodian of the national collections.

The Smithsonian's first Secretary, Joseph Henry, implemented the charter through support of basic research and publication not only in Washington but through a global network of correspondents devoted to these same ends. At the same time, the Institution began to acquire substantial collections of biological and geological specimens and of archeological and ethnographic materials, derived both from its own research and from U.S. Government programs. The Institution continues to conduct research and education programs and to improve its collections. Today the Institution is acknowledged to be a major national resource for the study of natural and cultural history and to be without equal anywhere on earth.



#### THE IMPORTANCE OF RESEARCH IN THE NATURAL SCIENCES AND CULTURAL HISTORY

The Institution today has three major functions: the first is that of a museum, or conservator of valued natural and cultural objects; the second is that of an institution for research in the natural sciences and cultural history; and the third is that of a disseminator of knowledge. The Smithsonian and museums in general, as custodians of the past, provide reference points and guide posts for the future. The Institution thus seeks through continued development of its collections and through its research and education programs to enhance man's ability to cope with problems affecting his future. Such activities are undertaken in collaboration with other institutions both at home and abroad and contribute to improving standards of the museum profession as well as of research. Such long term professional collaboration is the most substantial form of international exchange and contributes to the integration of the world scientific process and to international cultural understanding. Such collaboration contributes to closing the gaps between industrial and developing nations and between man and nature and endures despite the changing climate of relations between governments.

#### THE SMITHSONIAN FOREIGN CURRENCY PROGRAM

The Smithsonian employs Federal appropriations and other resources to support national and international programs. Among Federal funds received for these programs are those provided by the Special Foreign Currency Program appropriation. The purpose of the Smithsonian Foreign Currency Program is, like that of the Institution itself, "the increase and diffusion of knowledge among men." The Smithsonian Foreign Currency Program supports this purpose by making grants to United States universities, museums, and other institutions of higher learning, including the Smithsonian itself, for research in the natural sciences and cultural history and for strengthening museum programs and the museum profession. Over the eleven year period from FY 1966 through FY 1976, the Institution has received appropriations totaling more than \$27,000,000 equivalent in excess foreign currencies. Of these funds, approximately \$11,000,000 equivalent has been employed to support work in the natural sciences, and approximately \$16,000,000 equivalent for work in cultural history, of which \$2,000,000 equivalent in Egyptian pounds were contributed on behalf of the United States to save the temples of the Island of Philae which were inundated by the Nile River waters regulated by the Aswan Dam in Egypt.

#### STRENGTHENING UNITED STATES INSTITUTIONS

The Smithsonian program is the principal source of excess foreign currency support for research carried out by United States institutions in the excess currency countries. The Smithsonian program contrasts with other Special Foreign Currency Programs in that the full responsibility for the design, execution, and publication of research results rests with a scholar at a U.S. institution.



The research programs of U.S. institutions benefit substantially from excess foreign currencies. The importance of this source of funds grows as inflation diminishes funds available from other sources for such research.

The Smithsonian program strengthens the research and training activities of collaborating institutions abroad as well because most projects directly involve host country institutions and scholars. Enduring professional ties result from such joint efforts and scholarly exchanges.

Since the inception of the Program in FY 1966, Smithsonian grants have been made to 185 United States institutions in 30 states and the District of Columbia, to support more than 460 individual projects. Publications known to have resulted from program grants totaled more than 900 at the end of FY 1976.

More than 100 research collections have been returned to United States universities and museums. A similar number of collections have been added to the research resources of the excess currency countries. These collections are the original biological specimens and the archeological and ethnographic materials acquired in the course of field research. They will remain available for further study and interpretation by future generations of scholars long after the research teams supported by the Smithsonian have dispersed and their conclusions have been published.

The benefits of the program have been felt by a far larger number of institutions than the 185 mentioned above which were direct grant recipients. For example, three of the grantee institutions are consortia of United States scholarly institutions. They are the American Institute of Indian Studies (AIIS) in Chicago, Illinois, with 29 institutional members; American Research Center in Egypt (ARCE) in Princeton, New Jersey, with 29 institutional and some 500 individual members; and the American Schools of Oriental Research (ASOR) in Cambridge, Massachusetts, with 135 member institutions, including three scholarly associations.

Smithsonian grants have supported the research in India of 140 AIIS fellows over the nine year period from FY 1968 through FY 1976. The fellows were drawn from some 43 United States institutions in 22 states. Program grants have also supported 37 ARCE projects over the eleven year period from FY 1966 through FY 1976. Nine ASOR excavations in Israel and Tunisia over nine years have provided research opportunities for more than 260 senior U.S. scholars and field training for more than 324 graduate students.

#### CONTRIBUTIONS TO SOLVING TODAY'S PROBLEMS

The Smithsonian Foreign Currency Program, through its support for research in the natural sciences and cultural history, is contributing to man's understanding of his world where human population growth outstrips the resources available to support that population.

In an era of rapid environmental change, the grants awarded by the Smithsonian in systematic and environmental biology contribute to management of available resources. Smithsonian sponsored projects in FY 1976 included a University of



Michigan systematic study of the freshwater snails of Africa. The biology of these tropical snails which flourish where agricultural irrigation is practiced is important to understand because some species are carriers of schistosomiasis, a debilitating disease affecting humans and animals alike. Another project directed by Utah State University studied the ecology of the land in Tunisia bordering the Sahara Desert. This project seeks to learn the natural and agricultural processes which are causing the desert to expand thereby reducing the amount of agricultural land. This study will help develop land use plans and modified agricultural techniques to assist in reversing the desertification process.

The urgency of understanding the forces demanding change in human societies has caused scholars to study man and his communities, past and present, for a better grasp of the process of social change. Modern archeology and anthropology seek to understand such change. Smithsonian supported research toward this end in fiscal year 1976 included a Southern Methodist University study of Neolithic remains in the Egyptian desert, establishing a chronology of environmental changes and of the appearance and development of early man. Another project, directed by the University of California at Berkeley, sought evidence of contact between the civilizations of the Middle East and those of South Asia by studying a 4000 B.C. seaport in Pakistan.

The study of the origin of the Earth's chemical elements is intrinsic to man's understanding of his world. To further research in this area, the Smithsonian continued to award grants in astrophysics and earth sciences. One such grant in fiscal year 1976 supported the University of Chicago study of the chemical evolution of the core of stars comparable to our own sun.

In museum programs, the Program provided support for Smithsonian ethnographic research in Pakistan and Egypt of folk traditions which are still practiced by American immigrants from these lands. This research was part of that underlying the joint presentation by the Smithsonian Institution and the National Park Service of performances of these traditions in Washington, D.C. in the Bicentennial Festival of American Folklife, and the presentation by the Smithsonian Touring Program of these traditions in 52 cities around the country.

#### THE FY 1978 APPROPRIATION REQUEST

An appropriation of \$4,500,000 in excess foreign currencies is requested for FY 1978. The appropriation will be used to continue a program of grants to United States institutions for field research in fields of traditional Smithsonian competence. Of the total requested, \$3,500,000 would be devoted to field research, with approximately \$2,500,000 flowing to ongoing projects and \$1,000,000 flowing to new work. The remaining \$1,000,000 would allow payment of the fourth of four equal annual contributions in Egyptian pounds for the preservation of the Monuments on the Island of Philae in Nubia.



#### THE 1MPORTANCE OF MULTI-YEAR GRANTS

The FY 1978 appropriation request would allow increased multi-year funding of major programs. Sensible planning by the United States grantee institution and by the host country collaborator involves the advance commitment of professors and graduate students, as well as of facilities. The larger objectives of the participating institutions depend on the coordination of such resources. Multi-year grants, with annual disbursements subject to a finding by the Smithsonian that satisfactory progress has been made, are essential to provide reasonable assurance of funding to these institutions.

The programs of major research consortia mentioned earlier, AIIS, ASOR and ARCE, would benefit from such multi-year grants. Their programs embrace field expeditions as well as major national fellowship programs. Their membership looks to them to provide the uninterrupted research opportunities which are fundamental to the conduct of their graduate programs as well as to the maintenance of an American community of scholars knowledgeable about these critical areas of the world.

The Smithsonian Foreign Currency Program appropriation has been sufficient in the past to provide funding only on an annual basis for most of its grantees even though approved proposals are frequently of a multi-year nature. Multi-year funding, the standard practice of other Special Foreign Currency Program agencies, has been undertaken by the Smithsonian primarily when it was essential to protect investments in successful projects against the contingency that some excess currency accounts would be exhausted. This is happening in Poland and Tunisia in FY 1977.

#### EXPANDING CULTURAL PROGRAMS

Recent developments in United States' international, cultural and scientific relations are opening new areas for cooperative programs. These programs are amenable to support from the Smithsonian Foreign Currency Program. The Indo-U.S. Subcommissions on Education and Culture and on Science and Technology are establishing new priorities for exchanges and research. The Museum Committee of the Indo-U.S. Subcommission on Education and Culture, in particular, has developed a substantial program of curatorial and exhibits exchanges. Similarly, the U.S.-Egyptian Subcommission on Education and Culture is developing proposals for mutually beneficial museum exchanges. In addition, a newly-organized American Institute of Pakistan Studies will encourage research by American scholars in a broad range of disciplines. Exchanges with each of these countries are planned by the American Association of Museums within a global program designed to foster international cooperation in the museum professional fields.

#### SCIENTIFIC REVIEW UNDER THE SMITHSONIAN PROGRAM

The Smithsonian's Special Foreign Currency Program provides a mechanism for American private sector institutions, such as universities, to make use of excess foreign currencies for the support of their own research programs.



The Smithsonian program considers proposals from any qualified American institution for research in fields of traditional Smithsonian competence. The program seeks the advice of experts in the specific area of science to be studied, and convenes annual advisory councils of senior scholars in the relevant program areas. The councils discuss and evaluate the proposals, taking into consideration the experts' opinions, and provide specific advice to the Smithsonian regarding the selection of projects for support, and the priority among proposals recommended for support.

Projects lasting more than one year are subject to annual review of scientific progress by the advisory councils before another year of funding is approved. In addition, Smithsonian staff scientists and program advisory council members visit projects in the field when firsthand scientific reports are considered necessary. Smithsonian policy requires that grantees publish scientific results and that scientific collections be readily accessible to the scholarly community.

#### THE FINAL U.S. CONTRIBUTION TO THE SALVAGE OF THE TEMPLES OF PHILAE

The Smithsonian is seeking funding for the last of four annual contributions, each of \$1,000,000 equivalent in Egyptian pounds, initially requested in FY 1974 to help preserve the temples on the Island of Philae which have been inundated by Nile River waters regulated by the Aswan Dam. The \$4,000,000 total contribution to the Philae project would represent the final United States' contribution to the International Campaign to Save the Monuments of Nubia of which the Philae program is a part. This campaign was initiated in 1960 by UNESCO at the request of Egypt and the Sudan.

In 1960, the United States Congress in Public Law 86-472 asked the President to recommend a United States contribution to the UNESCO fund raising campaign. President Kennedy responded on April 6, 1961, that he considered it "to be in the interest of the United States to assist in rescuing these historic remains of a former civilization from destruction..."

The Smithsonian proposes to make this final payment available to the Government of Egypt as in FY 1977, through a grant to the American Research Center in Egypt (ARCE), a consortium of United States institutions of higher learning incorporated in Massachusetts.

The total cost of the program to salvage the monuments on the Island of Philae will exceed \$16,000,000 in convertible and local currencies. As of September 30, 1976, some \$10,547,000 have been received or pledged, of which approximately \$7,509,000 have actually been received. Egypt has undertaken to meet one-third of the projects' total cost.

The salvage plan, adopted with the advice and concurrence of an American engineer, provides for a coffer dam to be erected around the Island of Philae to permit the lowering of the water for the removal of the temples. They are to be re-erected on the nearby Island of Agilkia, in a setting like the original one, where they will be higher and safe from further erosion by the river and accessible to all.



Philae salvage work was continuing satisfactorily in September, 1976 when the Archeologists and Landscape Architects Committee met at Aswan. Removal of the temples, begun in September, 1975, was proceeding satisfactorily with some 30,000 blocks of stone lifted from the Island to a compound on the east bank of the Nile. Leveling of Agilkia Island, where the monuments are to be re-erected, has been completed and foundations for the Temples are being laid.

Archaeological studies begun two years ago when the island was first freed of water, have discovered missing blocks which had fallen from the monuments into the silt adjacent to the island. As many as possible will be recovered and employed in the restoration of the temples.

#### SPECIAL FOREIGN CURRENCY PROGRAM APPROPRIATIONS AND THE U.S. TAXPAYER

An appropriation for this program does not add to the tax burden of Americans because the money used for foreign currency grants comes from U.S. holdings of foreign currencies abroad in existing accounts that were established in connection with the "Food for Peace" (PL 480) program. These accounts were generated largely through sales of surplus U.S. agricultural commodities abroad in exchange for local currencies. In cases where these are greatly in excess of the projected normal U.S. needs, the Treasury Department designates them "excess" foreign currencies. They then become available through the Special Foreign Currency Program appropriation process for U.S. uses such as scientific research. Erosion of these accounts by inflation is in many cases dramatically reducing their value to the United States. Indian and Pakistani rupees, for example, lost almost half their value between 1970 and 1976. As a consequence, every effort should be made to employ effectively at least some of these currencies before inflation elimates their usefulness. The Smithsonian Foreign Currency Program provides one mechanism to employ these funds effectively.



#### SMITHSONIAN INSTITUTION MUSEUM PROGRAMS AND RELATED RESEARCH (SPECIAL FOREIGN CURRENCY PROGRAM)

SUMMARY OF OBLIGATIONS, ACTUAL AND ESTIMATED FY 1976, TRANSITION QUARTER, FY 1977, AND FY 1978

#### Obligations of funds by Program Area (dollar equivalents)

	FY 1976 Actual	Trans. Qtr. Actual	FY 1977 Estimate	FY 1978 Estimate
Archeology and Related Disciplines	\$ 881,000	\$ 44,000	\$2,547,000 <u>1</u> /	\$3,549,000 <u>1</u> /
Systematic and Environmental Biology	194,000	28,000	578,000	563,000
Astrophysics and Earth Sciences	43,000	185,000	151,000	270,000
Museum Programs	15,000	9,000	232,000	149,000
Grant Administration	21,000	1,000	10,000	20,000
Transfer to National Science FoundationScience Information Program	-0-	83,000	-0-	-0-
TOTAL	\$1,154,000	\$350,000	\$3,518,000	\$4,551,000

#### Obligations of funds by Country (dollar equivalents)

	FY 1976 Actual	Trans. QtrActual	FY 1977 Estimate	FY 1978 Estimate
Burma	\$ -0-3/	\$ -0-	\$ -0-	\$ -0-
Egypt	427,000	7,000	1,707,0001/	2,523,0001/
India	350,000	137,000 <u>2</u> /	586,000	1,527,000
Pakistan	65,000	15,000	409,000	501,000
Poland	43,000	191,000	232,000	-0-
Tunisia	269,000	-0-	584,000	-0-
TOTAL	\$1,154,000	\$350,000	\$3,518,000	\$4,551,000

<sup>1/</sup> Includes payment of \$1,000,000 equivalent in excess Egyptian pounds for the salvage of the Temples of Philae
2/ Includes \$83,000 equivalent transferred to the NSF-Science Information Program
3/ Obligations of \$368 equivalent eliminated by rounding



#### FISCAL YEAR 1976 - ACTUAL OBLIGATIONS

### Actual Obligations by Program Area (dollar equivalents)

	Research Projects 1/	Research Development	<u>Total</u>
Archeology and Related Disciplines	\$ 881,000	\$ 0	\$ 881,000
Systematic and Environmental Biology	188,000	6,000	194,000
Astrophysics and Earth Sciences	43,000	0	43,000
Museum Programs	13,000	2,000	15,000
TOTAL FOR RESEARCH	\$1,125,000	\$8,000	\$1,133,000
SFCP Grant Administration (Transfer to State Dept. for "Shared Administrative Expens	ses'')		21,000
TOTAL			\$1,154,000

### Actual Obligations by Country (dollar equivalents)

	Grant Administration and Agency Transfers		esearch rojects <u>l</u> /	Resea Devel	arch lopment		Total
Burma	\$ -0 -	\$	-0-2/	\$ -0	) -	\$	- 0-
Egypt	-0 -	4	27,000	(	0		427,000
India	21,000	3	27,000	2	,000		350,000
Pakistan	- 0-		60,000	5	,000		65,000
Poland	-0 -		42,000	1,	,000		43,000
Tunisia	-0-	_2	69,000	-(	<u>) - </u>	_	269,000
TOTAL	\$21,000	\$1,1	25,000	\$8,	,000	\$1	,154,000

<sup>1/</sup> These projects are described in the Grants List which follows.
2/ Obligations of \$368 equivalent eliminated by rounding



#### TRANSITION QUARTER - ACTUAL OBLIGATIONS

#### Actual Obligations by Program Area (dollar equivalent)

	Research Projects1/	Research Development	Total
Archaeology and Related Disciplines	\$ 40,000	\$ 4,000	\$ 44,000
Systematic and Environmental Biology	17,000	11,000	28,000
Astrophysics and Earth Sciences	185,000	-0-	185,000
Museum Programs	5,000	4,000	9,000
TOTAL FOR RESEARCH	\$247,000	\$19,000	\$266,000
SFCP Grant Administration			1,000
Transfer to NSF - Science Information Program			83,000
TOTAL			\$350,000

#### Actual Obligations by Country (dollar equivalents)

	Grant Administration and Agency Transfers	Research Projects <u>l</u> /	Research Development	Total
Burma	\$ -0-	\$ -0-	\$ -0-	\$ -0-
Egypt	-0-	7,000	-0-	7,000
India	83,000 <u>2</u> /	51,000	3,000	137,000
Pakistan	-0-	-0-	15,000	15,000
Poland	1,000	189,000	1,000	191,000
Tunisia	-0-	-0-	-0-	-0-
	<del></del>			
TOTAL	\$ 84,000	\$247,000	\$ 19,000	\$350,000

<sup>1/</sup> These projects are described in the Grants List which follows.
2/ Transfer to the National Science Foundation - Science Information Program



#### FISCAL YEAR 1977 - ESTIMATED OBLIGATIONS

### Estimated Obligations by Program Area (dollar equivalents)

	Research Projects	Research Development	<u>Total</u>
Archeology and Related Disciplines	2,525,000 <u>1</u> /	22,000	2,547,000 <u>1</u> /
Systematic and Environmental Biology	553,000	25,000	578,000
Astrophysics and Earth Sciences	139,000	12,000	151,000
Museum Programs	211,000	21,000	232,000
TOTAL FOR RESEARCH	\$3,428,0001/	\$80,000	\$3,508,000 <u>1</u> /
SFCP Grant Administration			10,000
TOTAL			$$3,518,000\frac{1}{-}$

### Estimated Obligations by Country (dollar equivalents)

	Grant Administration and Agency Transfers	Research Projects	Research Development	Total
Egypt	\$ -0-	\$1,674,000 <u>1</u> /	\$33,000	\$1,707,0001/
India	10,000	544,000	32,000	586,000
Pakistan	- 0 -	394,000	15,000	409,000
Poland	<b>-</b> 0 -	232,000	-0-	232,000
Tunisia	<b>-</b> 0 -	584,000	·-0-	584,000
	·			
TOTAL	\$10,000	\$3,428,000 <u>1</u> /	\$80,000	\$5,518,0001

<sup>1/</sup>Includes \$1,000,000 for Philae.



#### FISCAL YEAR 1978 - ESTIMATED OBLIGATIONS

### Estimated Obligations by Program Area (dollar equivalents)

	Research Projects	Research Development	Total
Archaeology and Related Disciplines	\$3,531,000 <u>1</u> /	\$18,000	\$3,549,000 <sup>1</sup> /
Systematic and Environmental Biology	545,000	18,000	563,000
Astrophysics and Earth Sciences	265,000	5,000	270,000
Museum Programs	135,000	14,000	149,000
TOTAL FOR RESEARCH	\$4,476,000 <sup>1</sup>	\$55,000	\$4,531,000 <sup>1</sup>
SFCP Grant Administration			20,000
TOTAL			\$4,551,000 <sup>1</sup>

### Estimated Obligations by Country (dollar equivalents)

	Grant Administration and Agency Transfers	Research Projects	Research Development	Total
Egypt	\$ -0-	$$2,493,000 \frac{1}{}$	\$30,000	\$2,523,0001/
India	20,000	1,497,000	10,000	1,527,000
Pakistan	-0-	486,000	15,000	501.000
TOTAL	\$20,000	$$4,476,000 \frac{1}{}$	\$55,000	\$4,551,000 1/

<sup>1/</sup> Includes \$1,000,000 for Philae



### STATUS OF FUNDS (dollar equivalents)

	FY 1976 Actual	Trans. Qtr. Actual	FY 1977 Estimated	FY 1978 Estimated
Unobligated Balance, Start of year	\$ 334,000	\$ 364,000	\$ 28,000	\$ 91,000
Appropriation	500,000	-0-	3,481,000	\$4,500,000
Recovery of Prior Years' Obligations	684,000	14,000	100,000	75,000
Unobligated Balance, End of year	364,000	-28,000	-91,000	-115,000
Total Obligations	\$1,154,000	\$350,000	\$3,518,000	\$4,551,000



# SMITHSONIAN INSTITUTION MUSEUM PROGRAMS AND RELATED RESEARCH (SPECIAL FOREIGN CURRENCY PROGRAM) Fiscal Year 1976 and Transition Quarter (TQ)

#### List of Grants

#### ARCHAEOLOGY AND RELATED DISCIPLINES

The study of archaeology, anthropology, and related fields such as ethnology, is the study of changes in man's condition brought about by his environment, by cultural factors, including man's own inventiveness, and limited by his biology. Societies such as our own that are undergoing rapid change are subject to increasing pressures to accommodate new factors. These societies must look to studies of the long history of man as well as to studies of today's condition to find answers to such questions as:

- a) How have societies responded to similar pressures in the past?
- b) What are those elements in our condition that are biological imperatives or are so culturally interdependent that we dare not change them? For example, is the family unit essential to the survival of our civilization?
- c) What are the current options available to today's societies?

The urgency to understand the forces demanding change in human societies has caused scholars to study man and his communities, past and present, for a better grasp of the process of social change. Modern archaeology and anthropology seek to understand such change.

Projects of United States institutions contributing to understanding man's condition, which received support in FY 1976 and Transition Quarter (TQ), are listed below.

EGY	Number PT	Institution	Principal Investigator	\$ Eqv.
1.	FR6-50002	American Research Center in Egypt, Princeton, N.J.	P. Walker	\$308,117 <sup>1</sup> /

The American Research Center in Egypt (ARCE) is a consortium of 29 United States universities and museums and over 500 individual scholars devoted to research and teaching about ancient and modern Egypt. The ARCE is an unique national resource because it is the principal source of money on an annual basis in the United States for the advancement of knowledge and understanding of ancient and Islamic Egypt as well as the training in Egypt of area specialists. Moreover, the ARCE has served the U.S. national interest by sustaining active scholarly collaboration between the U.S. and Egypt during periods of political stress when other contacts have been interrupted. SFCP support of the ARCE has totalled \$2,986,117 equivalent in Egyptian pounds over a ten year period for the support of 48 research projects. Projects receiving new funds in FY 1976 are listed below (items la through 1k).

1/ Total for following parenthetical amounts (items la through 1k).

Ohlimation



Obligation Number	Institution	Principal Institution Investigator S Eq		
	Operation of the Center in Cairo, Egypt.	P. Walker	(\$72.871)	

а.

Smithsonian grants to ARCE have supported the Cairo Center which serves as an American scholarly presence in Egypt by maintaining a reference library and by sponsoring lectures and symposia which involve the scholarly community in Egypt. The Cairo Center also provides administrative support for its members' research by obtaining research and import and export permits, housing, supplies and personnel, and by keeping project financial records and publishing research results.

b. American Museum of
Natural History, N.Y. W. Fairservis, Jr. (\$1,955)

This award pays for a guard for archaeological finds stored at Hierakonpolis, a major urban complex continually occupied from 4500 to 1500 B.C., being studied with the most sophisticated scientific techniques ever applied to this formative, but previously neglected, period of Egyptian history. Work on this site was interrupted by the Six Day War in 1967 but will be resumed.

c. Brooklyn Museum
New York, N.Y. M. Botwinich (\$16,148)

This award supports preparation of the Luxor Museum's catalogue and labels in Arabic, English, and French for exhibits previously installed with the technical advice of New York University with Smithsonian Foreign Currency Support. The museum serves as a model of American museum expertise in Egypt.

d. Brooklyn Museum
New York, N.Y. M. Bothmer (\$10,434)

This award supports the preparation of a catalog documenting 150 previously-unpublished ancient Egyptian statues found at Karnak. These statues were found early in this century by Georges Legrain.

e. Harvard U. M. Mahdi & Cambridge, MA D. Gutas (\$6,300)

This project is preparing a descriptive catalog of Arabic philosophical manuscripts in the Egyptian National Library. The study of these manuscripts is essential in the documentation of the continuity of Western thought.

f. New York U. D. Hansen (\$32,339)

This excavation of the stratified ancient port of Mendes in the Nile River delta, involves Greek and Roman settlements dating from 300 B.C. to the early Christian era. This site is providing greater insights into the life of an ancient Mediterranean port town. Work on the site was interrupted by the Six Day War in 1967 but was resumed in 1976.



Obligation Number	Institution	Principal Investigator	\$ Eqv.
g.	Smithsonian Institution	D. King O. Gingerich	(\$45,000)

The Smithsonian and the Egyptian National Library are preparing a critical catalogue of the Library's medieval scientific manuscripts and analysing scientific works of particular importance in astronomy and mathematics. Several of these documents suggest that some of the geometrical mechanisms employed by Copernicus were developed 250 years earlier in the Islamic world.

h. U. of California at Los Angeles S. Vryonis (\$25,452)

English translations of recent literary works evolved in Egypt under the impact of modern Western thought are being made available to the English reading public for the first time. One volume on the short story has been published; another on drama is nearing publication; a third, on the literature of ideas, is being translated. These complete texts of current Arab literature will provide a unique opportunity for insight into this important culture.

U. of Chicago K. Weeks (\$56,745)

This 50 year project carefully preserves through color reproductions the rich history of ancient Egypt carved and painted on the surfaces of its temples and monuments. The work is being carried out at Luxor before the monuments there are completely eroded and undecipherable.

j. U. of Maryland C. Butterworth (\$18,690)

Averroes or Ibn Rushd, as he was called in the Arab world, was one of the most important students of Aristotle. His commentaries on Aristotle's work are unequalled. The goal of this project is to edit and publish Arabic manuscripts of Averroes' Middle Commentaries on Aristotle's Organon.

k. U. of Pennsylvania D.B. Redford (\$24,183)

A pictorial reconstruction and scholarly interpretation of the temple of the Pharoah Akhenaten, consort of the famous Queen Nefertiti, is being made by matching photographs of more than 30,000 building blocks carved and painted 3,300 years ago. The temple was razed by Akhenaten's successors in an attempt to eliminate him from Egyptian history because of his belief in a single deity.

2. FR6-50010 North Texas State U. T. R. Hays \$14,992

This project seeks evidence of a change in livelihood from food collection to food production by the excavation and analysis of a predynastic site in Upper Egypt, which is providing the earliest evidence of a neolithic economy in Egypt. The beginnings of Egyptian civilization are believed to tie in with this economic change which would be accompanied by adjustments in cultural and political activities.



Obligation Number	Institution	Principal Investigator	\$ Eqv.
5. TA76-26	U. of Kentucky	W. Y. Adams	\$11,067

For 3,500 years the fortress site of Qasr Ibrim was a major administrative and religious center and is the last major archaeological site threatened with inundation by Lake Nasser which was formed by the construction of the Aswan Dam. Investigation concentrates on an unexcavated temple which was converted in the sixth century A.D. to a Christian church and on the houses and other remains of the mysterious Ballana Kingdom (fourth century A.D.) of which there is very little information.

4. FR6-50011 U. of Pennsylvania
University Museum D. O'Connor \$21,800

The city of Malkata was the residence of the Pharaoh, Amenhotep III and excavation of the city and its harbor should increase knowledge of ancient Egyptian urbanization and settlement patterns. This site should also increase the understanding of the contribution of harbor towns along the NiIe to the administrative and economic structure of the country.

5. FR6-50007 Washington State U. F. Hassan \$13,504

The origins of agriculture and human cultural adaption to a changing environment are being explored in a study which parallels that of North Texas State University. Prehistoric groups engaged in hunting and dry farming are known to have inhabited the Siwa Oasis region in Prehistoric Egypt.

INDIA

American Institute of Indian Studies

Amend. 5 (T.Q.)

American Institute of Indian Studies

E. Dimock, Jr. \$314,427 2/ \$5,978

The American Institute of Indian Studies (AIIS) was founded in 1961 and today has a membership of 28 United States institutions. The AIIS is a unique national resource because it is the principal source of money on an annual basis supporting in the United States the advancement of knowledge and understanding of India as well as the training in India of area specialists. Moreover, the AIIS has served the U.S. national interest by sustaining active scholarly collaboration between the U.S. and India during periods of political stress when other contacts have been interrupted. Disciplines sponsored by the AIIS are increasing from the original concentration on social sciences and the humanities to include the natural sciences as well. Smithsonian support of the AIIS has totalled \$3,536,647 equivalent in Indian rupees over an eleven year period.

2/ Total for following parenthetical amounts (items 6a and 6b).



				18	
	Obligation Number	<u>Institution</u> <u>I</u>	Principal nvestigator	\$ Eqv.	
a.		American Institute of Indian Studies Chicago, IL	E. Dimock, Jr.	(\$86,850)	
		for its fellows and for a maj ni and small offices in Bombay			
ъ.		American Institute of Indian Studies Chicago, IL	E. Dimock, Jr.	(\$233,555)	
curr	The principal activity of the AIIS has been the appointment of fellows. The SFCP currently provides most of the funds for this fellowship program. AIIS fellows receiving support during FY 76 are listed below.				
		Brandeis U.	M. S. Robinson		
		California State U.	L. G. Tewari		
		Columbia U.	D. L. Gitomer		

Eastern Michigan U. J. Hurd II George Mason U. D. Srinivasan Harvard U. S. Schuler Harvard U. G. A. Tubb M.I.T. R. P. V. Kiparsky C. Coppola III Oakland U. S. Hanchett Queens College U. of California R. A. Frasca Berkeley U. of California L. H. Bede Berkeley U. of California Santa Barbara G. J. Larson U. of Chicago C. Prindle F. Pritchett U. of Chicago K. L. Rose U. of Chicago



Obligation Number	Institution	Principal Investigator	S Eqv.
	U. of Chicago	C. M. Nain	
	U. of Michigan	J. H. Bromfield	
	U. of Minnesota	P. C. Engblom	
	U. of Minnesota	M. Lowah	
	U. of Minnesota	D. N. Nelson	
	U. of Pennsylvania	G. Cardona	
	U. of Pennsylvania	R. W. Lariviere	
	U. of Utah	B. D. Dharda	
	Yale U.	F. W. Bennett II	
7. FR4-60095 Amend. 6 (T.Q.)	American Institute of Indian Studies Chicago, IL	E. Dimock, Jr.	\$28,000

Another activity of the AIIS receiving Smithsonian funds is the Center for Art and Archaeology at Benares, India, which is a vital research facility serving scholars of ancient Indian from all over the world. The Center was established to apply rigorous scholarly standards to the massive job of photographing and indexing the art collections and the temples and monuments of India which abound in every region of the sub-continent. The archive of 30,000 photographs continues to grow as important projects like photographing collections in the India Museum in Calcutta are undertaken.

8. FR6-50014 (T.Q.) American Institute of Indian Studies
Chicago, IL M. Ashton \$5,404

In the area of South Kanara, India, ancient mythology permeates the daily life of the people but the celebrations of these myths, developed over the centuries, are rapidly disappearing. This project is filming three vanishing dance forms, which embody the regional myths.

9. SF3-011638 American Institute of
Amend. 5 (FY 76) Indian Studies
Chicago, IL C. R. Jones \$4,838

This project is a documentation for the first time on film and in a descriptive monograph of rapidly disappearing ritual art forms which are at least a thousand years old. The study will cast new light on traditional culture values and the changes they are undergoing.



ObligationPrincipalNumberInstitutionInvestigator\$ Eqv.

PAKISTAN

10. FR6-50005 American Museum of
Natural History, N.Y. W. A. Fairservis \$18,660

This excavation of an Harappan Village site near Karachi seeks a clear picture of the way of life of the villagers and influences for change which affected the Harappan civilization. Scholars feel that this culture lies at the foundation of South Asian civilization.

11. FR6-50004 U. of California
Berkeley G. F. Dales \$37,346

This excavation is studying the paleo-environmental and archeological history of a 4000 B.C. coastal site in Pakistan illustrating that Balakot was indeed a seaport (now several miles inland) and that trade was carried on with Mesopotamia and the Persian Gulf. The boring of stratigraphic cores is determing the physical environmental situation in relation to the ancient coastline and may provide historical information directly bearing on present-day development schemes for harbors and coastal facilities.

POLAND

12. TATQ-IFT00237 Southern Methodist U.
Dallas, TX A. Close \$1,762

The purpose of this study is the comparison for stylistic variability of a collection of artifacts in Poland with a similar group in the United States. These artifacts were taken from excavations of six sites in Egypt in a joint effort between the United States and Poland.

13. TA76-IFT00174 U. of Louisville, KY S. Jernigan \$5,899

This is a survey combining archaeological and art history approaches to gain insight into the history and cultural development of Poland in the medieval period and its relationship with Central and Western Europe at that time.

TUNISIA

14. FR6-50003 Dumbarton Oaks Center for Byzantine Studies
Washington, D.C. M. Alexander \$128,000

This is a descriptive and photographic inventory of the tile and stone mosaics from the Roman colonial and Byzantine periods in Tunisia, leading to the publication of scholarly reference works on the social, religious and artistic aspects of life in ancient Tunisia.



## SYSTEMATIC AND ENVIRONMENTAL BIOLOGY

For much of our history as a nation, we have regarded technology as the key to the betterment of the human condition. It is a concept that once stood virtually unquestioned, and which has profoundly influenced changing cultural patterns around the world. Today, however, it is becoming increasing obvious that technology exacts its price, one that is multiplied by new levels of population. Biological scientists who once concerned themselves with laying the brick-work of the edifice of human knowledge now find themselves with a new responsibility. We now know that it is imperative to establish norms for our environmental systems, to monitor changes, and to predict the consequences of social policies on an Earth that has grown less forgiving of our abuses. American scientists are again the leaders in international research efforts in these new fields and with Smithsonian Foreign Currency Program support in countries where this resource is available. Through research such as described below, the Program fosters long term collaborative relationships between American and foreign institutions and scholars, thus laying a foundation for the intense efforts that will be required to solve the problems of biological science that know no national boundries.

Number	Institution	Investigator	\$ Eqv.
EGYPT			
15. TA76-56	U. of Michigan Ann Arbor, MI	P. Gingerich	\$1,219

This is a study of 11 million year old (Oligocene) fossil mammal specimens in the Cairo Geological Museum. It seeks clarification of the line of man's evolution from his primate ancestors inhabiting Africa and Europe.

16. FR6-50008 U. of Michigan J. B. Burch \$45,166 Ann Arbor, MI

This grant supports research into the freshwater snails of Africa, including disease-carrying species, and into development of techniques for the control of the disease-carrying ones.

#### INDIA

17. TATQ-IFT00230	Smithsonian Institution	E. Ayensu	\$3,580
TATQ-IFT00234	U. of California Riverside	J. A. Moore	\$2,313
TATQ-IFT00248	U. of California Santa Cruz	K. Thimann	\$2,405



Obligation Number Institution		Principal Investigator	§ Eqv.
TATQ-IFT00236	U. of Maryland	J. O. Corliss	\$1,958
TATQ-IFT00229	U. of Maryland	R. Colwell	\$2,065

The program supported the U.S. delegation to the XIX General Assembly of the International Union of Biological Sciences held in Bangalore, India, and consultation with Indian scientists and officials to explore ways to further U.S. - Indian collaboration in biological research.

18. TA76-IFT00136

Smithsonian Institution

S. D. Ripley

\$3,845

This is a study of the ecology of the birds of South Asia.

#### PAKISTAN

19. TA75-261 &

Hawaii Institute of Marine Biology

TA 262 Amend. 1 (FY 76)

Kaneohoe, HI

A. Banner

D. Banner

\$1,464

This is a study of the biology of the Alpheid shrimp, a commercially valuable family of shrimp found on the Pakistani coast. This project seeks to develop plans to increase their production.

#### POLAND

20. FR6-50012

Smithsonian Institution

U. S. Geological Survey W. A. Oliver, Jr. \$9,539

This study compares and analyzes in Poland new and existing data on the geographic distribution of Devonian and Permian corals to test current hypotheses of the positions of continents during these periods.

TATQ-IFT00251

Academy of Natural Sciences T. Uzzell

\$3,012

TATQ-IFT00252

Philadelphia, PA

C. Spolsky

\$2,137

For a number of years American and Polish geneticists have been studying the Rana esculenta, a complex of European frogs that exhibit marked patterns of variability in the passing of genetic material to offspring, producing both genetically stable and unstable species. This research is directed toward both understanding the mechanism of heredity and toward development of techniques of genetic research.

## TUNISIA

22. FR5-46241 Amend. 1 (FY 76)

\$ 18,640 \$104,469

FR6-50006

Utah State U. F. Wagner

This project, by studying the ecology of the land in Tunisia bordering on the Sahara Desert, seeks to learn the natural and agricultural processes which are causing the desert to expand thereby reducing the amount of tillable land. It also seeks to develop land use plans and to modify agricultural techniques to assist in reversing the desertification process.



	Obligation Number	Institution	Principal Investigator	\$ Eqv.
23.	TA76-IFT00156	U. of California Berkeley	R. Ornduff	\$1,758
	TA76-IFT00157	Duke U.	W. Culberson	\$1,833

An award was given for the study of pollen patterns in various economically important plants. It seeks to develop techniques to ascertain pollen production and pollenator behavior.



\$9,347

#### ASTROPHYSICS AND EARTH SCIENCES

The study of astrophysics and earth sciences is the study of man's available energy and mineral resources. Studies of the stars and their origins reveal much about the origin, composition, behavior and fate of the Earth. The forces governing the stars are of course the same as those governing the star which is our Sun. The Earth was born of solar minerals, and the Sun remains the source of all energy, fossil or otherwise, available to man today. Uranium, for example, which provides the fuel for atomic power plants, is present in the Sun as well as the Earth. Coal and oil are fossil remains of plants and animals which once relied on sunshine for life, just as all life does today.

Studies, like those listed below which received Smithsonian Foreign Currency Program support in FY 1976 and Transition Quarter are contributing to a body of knowledge which is essential to satisfying man's future energy and mineral needs and to his understanding and prediction of earthquakes, for example, and will contribute to future space age developments of benefit to man.

Such projects help host nations, particularly the developing nations, improve their scientific output while providing United States institutions with collaborators, facilities or field research opportunities essential to the conduct of studies judged by the Smithsonian most likely to advance man's knowledge of his available energy and mineral resources.

<u>Number</u>	Institution	Investigator	\$ Eqv.
EGYPT			
24. TA76-IFT00102 TA76-IFT00103			

Principal

H. Faul

Obligation

TA76-IFT00104

An award was granted to study the geology and time sequences of the "alkaline ring-dike" formations, which occur in the eastern desert of Egypt. The purpose of this project is to shed new light on the fundamental earth processes associated with the birth of the oceans and to develop guides for mineral exploration.

U. of Pennsylvania

25. TATQ-00238 U. of Pennsylvania R. A. Weeks \$1,994

Laboratory analysis is proposed of the chemical and physical properties of desert silica glass, a naturally occurring glass of unknown origin similar to tektites, which are extraterrestrial in origin. This project also proposes to determine the source material and mode of the glass formation.



Number	Institution	Investigator	\$ Eqv.
DIA			
. TA76-48	Smithsonian Astrophysical Observatory, Cambridge, MA	G. F. Weiffenbach	\$2,756

The Smithsonian Astrophysical Observing Station at the Uttar Pradesh State Observatory, Naini Tal, India, is the only satellite tracking station in the Smithsonian Astrophysical Observatory network located on the Asian land mass. This station makes possible observation of man-made satellites passing over South Asia. It employs tracking cameras and contributes to studies devoted to an understanding of the movement of the continents, the shape of the Earth, the nature of its upper atmosphere, and how these are influenced by the Sun and the other planets.

PAKISTAN - none

# POLAND

IND

26.

27. TA75-306

Amend. 1 (FY 76) Smithsonian Astrophysical \$95 FR6-50015 (TQ) Observatory, Cambridge, MA E.M. Gaposchkin \$182,755

Forces affecting the movement of continents and associated volcanic and earthquake activity can be studied by monitoring the continental movements and the wobble of the Earth at the poles from observatories precisely located, not simply by latitude and longitude, which is a system tied to shifting continents, but by establishing its location in relation to the Earth's more stable center of mass. This collaborative study will establish this kind of location for a Polish observatory at Borowiec and permit substantial additions of data to studies of the Earth's dynamics.

28. FR6-50001 U. of Chicago D. Schramm \$16,936

This research employs computers to calculate the chemical evolution of the core of stars comparable to the earth's solar system.

#### TUNISIA

29. FR6-50009 Duke U. 0.H. Pilkey \$13,500

This is a study of the sediment in the Lake of Tunis, one of the world's oldest polluted lagoons, tracing the history and long range effect of pollution. It seeks to determine what combinations of organisms are characteristic of various levels and types of pollution.



#### MUSEUM PROGRAMS

The scope of museum activities is growing and changing. The traditional museum role has been the care and preservation of scientific specimens and cultural objects for study and reevaluation as new techniques and data become available. Today museums also have a growing role in the transmission of man's cultural heritage to future generations, a role belonging traditionally to universities. Museums are now making more use of their skilled personnel and their collections for popular education. Increasingly, museums are broadening the interpretation of museum collections to include living cultural traditions such as crafts and the performing arts.

Projects like those listed below, which received Smithsonian Foreign Currency Program support in FY 76 and Transition Quarter, support both the traditional and the newer roles of museums. These projects respond to the needs of the museum profession which are not met within the framework of basic research in the natural sciences and cultural history which received Smithsonian Foreign Currency Program support separately.

	Obligation Number	Institution	Principal <u>Investigator</u>	\$ Eqv.
BUR	MA		·	
30.	TA76-1 & 2	Şmithsonian Institution	C. Mydans & S. Mydans	\$368

This award supported research for a descriptive article on the traditional dance rituals of Burma for publication in the Smithsonian magazine.

#### EGYPT

31.	TA TQ -00258	Smithsonian Institution	S. Bedini	\$2,618
	TA TQ -00267		S. Hamarneh	\$2,136

The U.S. - Egyptian Agreement on Health provides for development of an Egyptian Museum on the History of Medicine and Pharmacy. The Deputy Director of the U.S. National Museum of History and Technology led a group of experts to Cairo to consult with Egyptian officials and Directors of Egypt's museums on ways to develop their museums on the history of medicine and pharmacy.

32. FR4-60107
Amend. 5 (FY 76) Smithsonian Institution S. K. Hamarneh \$714

This award supported a study of medieval arabic manuscripts in Egypt to obtain material for inclusion in a history of Islamic contributions to the development of medical science.

33. TA75-230 Smithsonian Institution
Amend. 5 (FY 76) Kent State U. H. El Dabh \$475

This award supported folklore research in Egypt to identify and select folk artists and craftsmen to participate in special American Bicentennial programs in the United States illustrating the cultural traditions of immigrants to the United States.



Obligation		Principal	
Number	Institution	Investigator	S Eqv.

## PAKISTAN

34. TA76-IFT99 Smithsonian Institution and
U. of California at Los Angeles N. Jairazbhoy \$3,104

An award was granted for ethnographic research in Pakistan to identify and select folk artists and craftsmen who share roots in common with American immigrants from the same area to participate in special American Bicentennial programs in the United States.

### POLAND

35. FR5-46237 National Archives Trust Fund
Amend. 1 (FY 76) Board, Washington, D. C. A. Meisel \$2,600

The goal of this project is the preparation of an animated film in Poland that will provide information for the American public visiting the National Archives on the Archives' historical development and its major services.

 56. TA76-IFT00182
 R. Chelminski
 \$1,157

 TA76-IFT00183
 Smithsonian Institution
 R. Crane
 \$1,572

This award supported research for articles on the National Forest at Bialowieza and on the archaeological project at Olsanica to be published in the <u>Smithsonian</u> magazine.

 37. TA76-IFT41
 Smithsonian Institution
 R. Rinzler
 \$ 648

 TA76-IFT72
 U. of Texas
 S. Jakobson
 \$ 760

 TA76-IFT42
 Wesleyan U.
 J. Kimball
 \$ 2,252

This project identified folk artists and craftsmen who share roots in common with American immigrants from the same area who then participated in special American Bicentennial programs in the United States.

TUNISIA - none



#### GRANTS PROGRAM ADMINISTRATION

Obligation Number

# Institution

\$ Eqv.

38. 3300-61-01 (FY 76)

Smithsonian Institution

\$21,502

Indian rupees were transferred to the State Department for Shared Administrative Expenses.

39. TA TQ-IFT00214

Smithsonian Institution

1,309

This obligation supported inspection and audit of research projects and liaison with host country governments and institutions by Smithsonian scientific advisory council members and by Smithsonian staff.

TRANSFER TO NATIONAL SCIENCE FOUNDATION (NSF)

40. (Transition Quarter) NSF, Science Information Program

\$83,000

These funds were transferred to NSF for translations of publications of priority interest to scholars conducting research in the natural sciences and cultural history.

